



### What happens to our trash?

When you throw something “away”, where does it go? If you live or work in Alexandria or Arlington, your trash most likely goes to the Covanta Alexandria/Arlington Waste-to-Energy Facility at 5301 Eisenhower Avenue in Alexandria. There trash is burned to produce electricity.

The City of Alexandria and Arlington County co-own this facility, which opened in 1988. The facility can process 975 tons of trash per day, seven days per week, 365 days per year. That means the facility can process 356,000 tons of trash per year, eliminating approximately 40,000 tractor trailers trips on I-95 that would be required if the waste were to go to landfill. The facility has processed over 3.8 million tons of trash since opening in 1988.

Covanta Alexandria/Arlington, Inc. is the contractor the jurisdictions use to run and manage the facility. This contractor operates many similar facilities throughout the nation.

### Where does the trash come from?

Most of the trash processed at the facility is generated by the people living in houses and apartments and working in offices, restaurants, stores, hotels, and other businesses in Alexandria and Arlington. A limited amount of the trash also comes from other communities in the region.

### How much is generated?

As the populations of Alexandria and Arlington continue to grow, so does the amount of trash produced. The creation of new jobs and businesses in the area also creates more trash that must be disposed of. The amount of trash generated in the jurisdictions is expected to increase from 320,000 tons in 2000 to over 338,000 tons in 2010.

### How does trash get to the facility?

City, County, and private trash haulers collect waste within Alexandria and Arlington and bring it to the facility. The City and County haulers collect trash from houses, townhouses, and from some small apartment buildings and businesses. Private haulers collect the trash primarily from businesses, schools, institutions, and apartment buildings.

### What about recycling?

Alexandria and Arlington both have successful recycling programs in place that divert material from the waste stream. Recycling allows these materials, such as paper, glass, aluminum, and leaves, to be remade into new products instead of being burned for energy.

### What improvements were recently made to the facility?

Substantial improvements were made to the facility in the past two years in response the Clean Air Act 1990 Amendments and a commitment to improved regional air quality. Improvements include:

- Addition of one of the most advanced emission control systems of any waste-to-energy facility in the United States
- New computerized combustion control system
- New scales, scale house, and entrance road
- New windows, stack siding, and paint
- New landscaping, fencing, and noise shielding

### Why use a waste-to-energy facility to dispose of trash?

- Waste-to-energy is an effective method of trash management and volume reduction, with the added benefit of generating clean energy;
- Waste-to-energy reduces trash volume by 90%, conserving valuable landfill space;
- Waste-to-energy power, as an alternative to coal, prevents the release of nearly 25,000 tons of nitrogen oxides and 5,000 tons of volatile organic compounds;
- Waste-to-energy depletes less of the earth’s natural resources than oil, coal, or natural gas-powered electricity generation;
- New Clean Air Act requirements ensure that waste-to-energy is one of the cleanest sources of power in the world;
- By replacing fossil fuels, waste-to-energy reduces the buildup of carbon dioxide in the air;
- For every one million tons of trash processed at a waste-to-energy facility, the need to use about 1.67 million barrels of oil to generate the same amount of electricity is avoided;
- Waste-to-energy meets the trash disposal needs of an urban area, such as Alexandria and Arlington, without having to ship trash great distances for disposal in landfills.

For more information regarding the solid waste management program in the Jurisdictions, please contact:

#### City of Alexandria

Department of Transportation  
& Environmental Services  
703-838-4966  
[http://www.ci.alexandria.va.us/city/tr\\_es\\_ut\\_idx.html](http://www.ci.alexandria.va.us/city/tr_es_ut_idx.html)

#### Arlington County

Department of Environmental Services  
703-228-4488  
<http://www.co.arlington.va.us/des/index.htm>

#### Covanta Energy

For more information regarding Covanta Energy, contact 703-370-7722 or see  
[http://www.covantaenergy.com/energy/facilities/waste\\_to\\_energy/alexandria.php4](http://www.covantaenergy.com/energy/facilities/waste_to_energy/alexandria.php4)

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## Trash Trails

*Where does our trash go?*



**COVANTA**  
ENERGY



# Waste-to-Energy Process

## What is a waste-to-energy facility?

A waste-to-energy facility is a plant where trash is burned at high temperatures to produce steam. This steam is used to turn turbines, similar to other power plants, which generates electricity. At the Alexandria/ Arlington facility, this electricity is sold to Virginia Power. The facility produces enough electricity to meet the energy needs of approximately 23,000 homes.

There are 102 waste-to-energy plants operating in 31 states in the United States in 2001. These plants burn about 14% of the trash generated nationwide and produce enough electricity to meet the needs of 2.4 million homes. They serve the waste disposal needs of more than 37 million people.



**Scale-House**  
The first stop for trucks after entering the Facility is the scale-house. Haulers are charged a fee based on the weight of their load and the type of waste they are transporting.



**Tipping Hall**  
Trucks dump their loads. Operators screen incoming material to keep inappropriate wastes out of the combustion process.



**Waste is moved to combustion**  
Overhead cranes move the waste from the pit to the charging hoppers, nearly three tons at a time, for introduction into the combustion chambers.



**Combustion Chamber**  
Waste is burned on the patented Martin Grates, where finger-like devices are constantly exposing the unburned waste to fire, ensuring the most efficient combustion.



**Control Room**  
Highly trained personnel monitor operating conditions in the entire facility, including the state-of-the-art continuous emissions monitoring system.



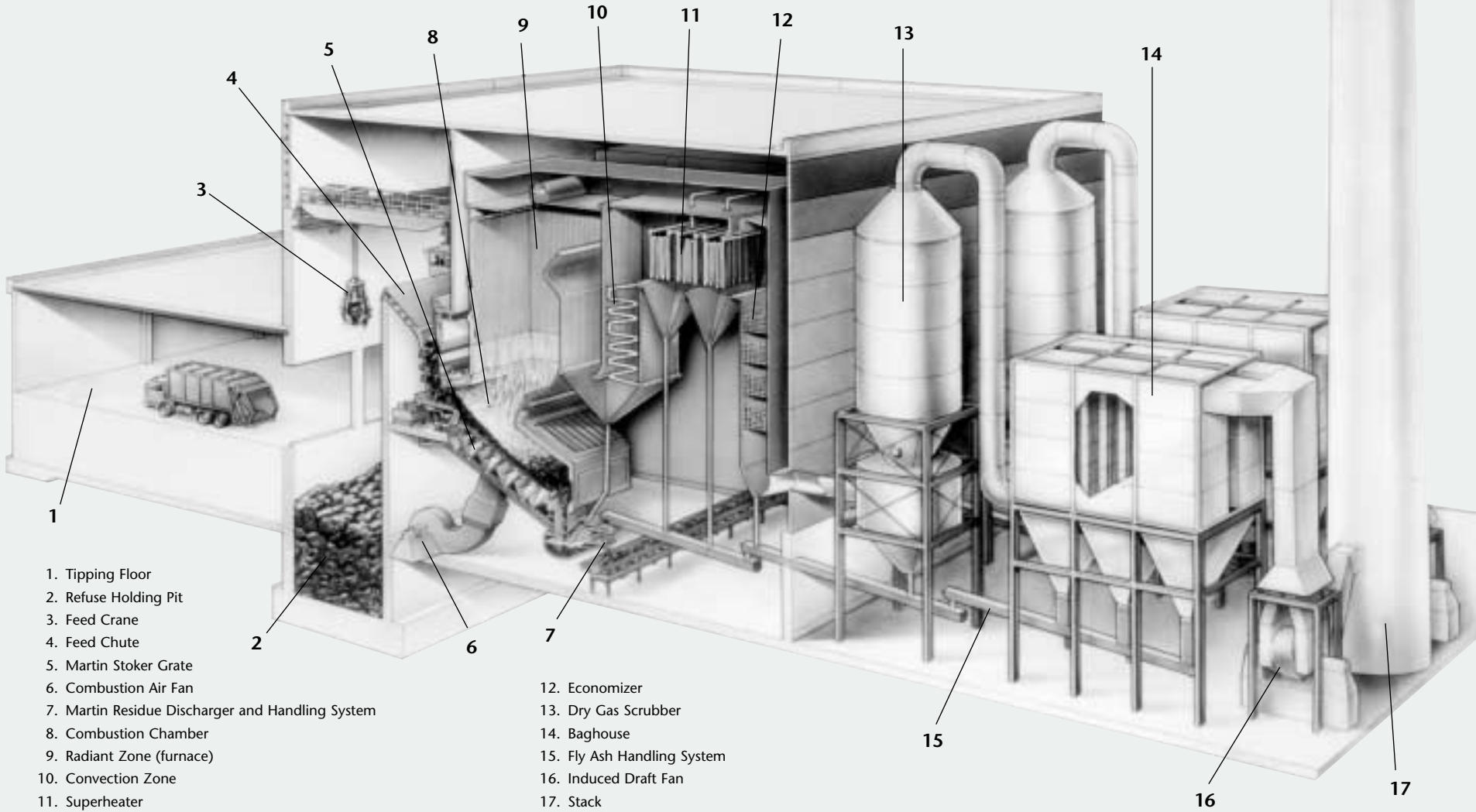
**Air Pollution Control**  
The Facility's new emissions control system can process emissions to exceed 1990 federal Clean Air Act requirements. The first of four stages is where anhydrous ammonia injection turns smog-causing nitrogen oxides into nitrogen and water.



**Scrubbers & Fabric Filter Baghouse**  
Hot gases, after passing through the boiler, are washed with lime slurry to stabilize acid gases. Next, activated carbon scrubs out mercury, dioxin, furan and other pollutants. In the final stage, minute particles, not visible to the human eye, are filtered out by some two thousand cylindrical bags (as seen here).



**Electricity Generation**  
Electricity, enough to power some 23,000 homes, is distributed to the power grid via Virginia Power's onsite transformer.



**Ash Management**  
Ash is collected from the combustion chamber, scrubbers and baghouse to be disposed of at an approved landfill.



**Steam Condensing & Water Reuse**  
Large fans, used in conjunction with a water spray system, cool and condense the steam produced for electricity generation. The condensed steam, reconverted to water, is then pumped to the boilers to generate additional steam, completing the cycle.